

1 [THE PREVIOUS CLAIMS 1-20 ARE ABANDONED AND SUBSTITUTED BY
2 CLAIMS 21-40 AS GIVEN BELOW]

3 WHAT IS CLAIMED IS:

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5 21. A method for operating a multimedia computer as a server to
6 provide e-commerce voice communication solution to support e-commerce applications
7 using e-commerce voice communication with a telephone comprises:
8 browsing the Internet web pages and recognizing a common identifiable e-
9 commerce communication symbol represented by an icon by the e-commerce caller;
10 clicking the common identifiable e-commerce voice communication
11 symbol icon associated with a dial file on a particular commerce web page of interest by
12 the e-commerce caller;
13 launching and displaying a common call interface for the e-commerce
14 caller to monitor and terminate the call if desired;
15 initiating a real-time communication channel between the e-commerce
16 caller, using the multimedia computer, and the commerce party, using a telephone,
17 represented by the e-commerce voice communication symbol icon, with just a simple
18 click, without the need of manually inputting and retrieving any caller information and
19 any callee information to and from the telephone company;
20 engaging a real-time voice communication session with the commerce
21 party while staying on browsing the commerce web pages of interest;
22 concluding a real-time voice communication session by clicking off the
23 call interface;
24 being ready to browse and click another e-commerce voice
25 communication symbol icon to initiate another e-commerce voice communication
26 session.

1 22. The method of claim 21
2 wherein the e-commerce voice communication symbol icon is associated
3 with an image signifying the click and call function and a dial file name with its URL
4 address imbedded in the web page;

5 wherein the said e-commerce voice communication symbol icon is
6 associated with a web page containing a dial file having the e-commerce party name,
7 phone number, web site address and a dialing computer IP address;
8 wherein the said dial file uses a unique file extension which is registered
9 with the caller computer to launch the said call interface and to initiate the said real-time
10 e-commerce communication session with the said receiving computer server when the e-
11 commerce voice communication symbol is clicked;
12 wherein the said receiving computer acts as a dialing computer and makes
13 a call immediately via its voice modem to the e-commerce party's phone number upon
14 establishing the real-time communication channel by the simple click action made by the
15 caller;

1 23. The method of claim 21

2 wherein the said call interface is a set of program codes containing an
3 interface display image and the real-time communication protocol stack for establishing
4 the real-time communication channel with another multimedia enabled receiving
5 computer connected to the Internet with the same real-time communication protocol
6 stack, the protocols being H.323, RTP, and UDP;

7 wherein the said call interface is a set of program codes containing an
8 interface display image and the real-time communication protocol stack for establishing
9 the real-time communication channel with another multimedia enabled receiving
10 computer connected to the Internet with the same real-time communication protocol
11 stack, the protocols being SIP, RTP and UDP;

12 wherein the said call interface program is automatically launched by the
13 dial file when the e-commerce voice communication symbol icon is clicked;

14 wherein the said receiver computer acts as the dialing computer using its
15 voice modem for dialing the commerce party's telephone via the telephone network based
16 on the telephone number contained in the said dial file.

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24. The method of claim 23

4 wherein the said receiving computer is an Internet telephony gateway
5 computer compliant with the standard communication protocols being H. 323, RTP and
6 UDP;

7 wherein the said receiving computer is an Internet telephony gateway
8 computer compliant with the standard communication protocols being SIP, RTP and
9 UDP;

10 wherein the said receiver computer is an Internet connected PBX device
11 compliant with the standard communication protocols being H.323, RTP and UDP;

12 wherein the said receiver computer is an Internet connected PBX device
13 compliant with the standard communication protocols being SIP, RTP and UDP;

14 wherein the said receiver computer is an ISP server compliant with the
15 standard communication protocols being H.323, RTP and UDP;

16 wherein the said receiver computer is an ISP server compliant with the
17 standard communication protocols being SIP, RTP and UDP.

1 25. The method of claim 23

2 wherein the said multimedia computer has the sound card which enable the
3 multimedia functions including processing of analog voice signal to digital signal and
4 vice versa for transmitting and receiving real-time data from the real-time communication
5 session, the said processing employing standard CODEC including G.723, G729, PCM,
6 ADPCM, LDC and the like for compressing the digital data;

7 wherein the said sound card in the multimedia computer is capable of
8 processing video and sound;

9 wherein the said dialing computer has the said same digital to analog and
10 analog to digital processing capability to communicate with the commerce party's
11 telephone device over the telephone network and to employ the same CODEC for
12 compressing the digital data.

1 26. The said dialing computer according to claim 23 is a multimedia
2 enabled computer connected to the Internet via a network interface and connected to the
3 telephone network via a voice modem.

4 27. The said dialing computer according to claim 23 is an Internet
5 telephony gateway computer compliant with the said same real-time communication
6 protocols capable of establishing a real-time communication channel with the client
7 computer and making a call to an Internet telephone.

1 28. The said dialing computer according to claim 23 is an Internet
2 connected PBX with an IP address and is compliant with the said same real-time
3 communication protocols capable of establishing a real-time communication channel with
4 the client computer and making a call to a telephone connected to the PBX system.

1 29. The method of claim 23
2 wherein converting analog voice and video data received to digital voice
3 and video data and vice versa comprises using an analog to digital converter and a digital
4 to analog converter of said sound card to accomplish the conversion.
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1 30. A method for establishing a real-time e-commerce voice
2 communication system between any multimedia computer on the Internet with any
3 commerce telephone on the telephone network without depending on the provisioning
4 and servicing procedures offered by conventional telephony companies comprises:
5 any commerce party posting a set of real-time communication symbols on
6 the said commerce party's web pages to indicate the commerce party's desire to receive e-
7 commerce calls, the real-time communication symbols representing different dial files
8 containing various commerce party names, web site addresses and different telephone
9 numbers for supporting the click and call;

10 any caller installing a call program consisting of an user call interface
11 program and a real-time communication protocol stack on a multimedia enabled
12 computer connected to the Internet; making the said multimedia computer e-commerce
13 voice communication enabled;

14 wherein said call interface program is downloaded from online
15 connection;

16 wherein said call interface program is alternatively installed with an
17 interactive CD;

18 wherein said caller browsing the e-commerce web pages on the said
19 multimedia computer and recognizing and selecting a particular real-time communication
20 symbol;

21 wherein said caller clicking the selected said real-time communication
22 symbol to access its associated dial file at its file address, to launch the call interface
23 program and to initiate the real-time communication session;

24 wherein said click and call engaging a dialing computer designated by
25 the said dial file to make a call to the said designated commerce party's telephone number
26 without any effort on the caller's part to input any information to make the desired call;

27 wherein said caller engaging simultaneously in the said real-time e-
28 commerce communication session and web page browsing for conducting e-commerce
29 business, ready in real-time to terminate the said e-commerce communication session and
30 click another e-commerce communication symbol to reach a different commerce party;

31 a dialing computer selected by the commerce party installing a call
32 program consisting of an EVCS communication program and a real-time communication
33 protocol stack to support the click and call initiated by the said caller;

34 wherein said EVCS communication program is compliant to a standard
35 real-time communication protocol stack;

36 wherein said dialing computer can be easily replaced by the commerce
37 party with an alternate e-commerce voice communication enabled dialing computer
38 connected on the Internet by modifying the said dial file data without depending on the
39 telephone company's installation services;

40 wherein said dialing computer selected by the commerce party can be
41 alternatively replaced by the commerce party with an Internet telephony gateway to serve
42 the function of a dialing computer without depending on the telephone company's
43 provisioning services;

44 wherein said EVCS communication program and protocol stack are
45 downloaded from online connection;

46 wherein said EVCS communication program and protocol stack are
47 alternatively installed with an interactive CD.

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2 31. The method in claim 30

3 Wherein any commerce party managing its own e-commerce
4 communication system to support client calls;

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wherein the said system is operating in an architecture and network configuration wherein said any client computer is directly engaged with said any receiving computer following the automated procedures of the call program and standard communication protocols;

wherein said call program initiating a real-time communications channel at the receiving computer with the client computer via the computer network in response to the request from the client computer;

determining a telephone number to dial in response to the click and call request;

dialing the telephone number on a telephone with a voice modem, the receiving computer comprising the voice modem and the voice modem coupled to the telephone line;

receiving packets of voice data at the receiving computer from the client computer;

reassembling at the receiving computer the packets of voice data into a stream of digital audio data;

converting the stream of digital audio data to a stream of analog audio data with a sound board within the receiving computer;

outputting the stream of analog audio data to the voice modem, and

outputting the stream of the analog audio data from the voice modem to the telephone line.

32. The method of claim 30

wherein the said system is operating on an architecture and network configuration wherein any client computer is directly engaged with any receiving computer following the automated procedures of the call program and the standard communication protocols;

wherein said receiving computer establishing a real-time communication session between the client computer and receiving computer;

receiving at the voice modem a stream of incoming analog audio data from the telephone line;

outputting the stream of incoming analog audio data to the sound card;

11 digitizing the stream of incoming analog audio data with the sound card to
12 form a stream of incoming digital audio data;
13 packetizing the stream of incoming digital audio data to form packets of
14 incoming digital audio data; and
15 outputting the packets of incoming digital audio data to the client
16 computer via the computer network.

1 33. The method of claim 31

2 wherein outputting the stream of analog audio data to the voice modem
3 comprises outputting the stream of outputting analog data from the sound card speaker
4 output port to the microphone input port.

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2 34. The method of claim 32

3 wherein outputting the stream of incoming analog audio data to the sound
4 card comprises outputting the stream of incoming analog data from a speaker output port
5 of the voice modem to a microphone input port of the sound card.

1 35. A method of enabling any network connected multimedia computer to
2 perform e-commerce voice communication functions without depending on the
3 provisioning, billing and customer services of a telephone company comprises
4 a service provider offering an e-commerce voice communication solution
5 by posting a web page containing an e-commerce voice communication symbol;
6 a client browsing the said web page with the said e-commerce voice
7 communication symbol;

8 wherein the said e-commerce voice communication symbol is associated
9 with an image on a web page, signifying an e-commerce voice communication solution
10 supported by the EVCS, E-commerce Voice Communication System, and a dial file;

11 said client clicking the e-commerce voice communication symbol to
12 launch an EVCS user enrollment web page providing instructional information for
13 downloading an EVCS call program;

14 said client inputting user information to the EVCS user enrollment page to
15 qualify for downloading the EVCS call program;

16 said client submitting the user information to the said service provider via
17 Internet;
18 said client receiving approval from the said service provider from the
19 Internet;
20 said client downloading the EVCS call program containing call interface
21 and a set of communication protocols;
22 said client launching the said EVCS call interface and testing the e-
23 commerce voice communication by inputting a telephone number to be called;
24 said client successfully completing the call with satisfactory voice quality;
25 said client submitting successful result to the said service provider and
26 concluding the enrollment process.

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2 36. The method in claim 35

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4 wherein the said client is using a multimedia computer connected to the
5 Internet;

6 wherein said service provider is offering an Internet-connected
7 multimedia computer with a voice modem connected to the PSTN network as a receiving
8 computer for responding to the test and desired calls made by the said client;

9 wherein said user call interface contains input fields for the said client to
10 enter user profile such as name, address, phone number, IP address, email and other
11 personal information;

12 wherein said user call interface contains action buttons for the said client
13 to select to get the said client listed in a directory;

14 wherein said user call interface contains action buttons for the said client
15 to select to get the said client listed in the yellow pages;

16 wherein said user call interface contains action buttons for the said client
17 to select to receive advertising, including hot banner, during the e-commerce voice
18 communication session.

19 wherein said user call interface contains action buttons for the said client
20 to receive a preprogrammed directory for use;

21 wherein said user call interface contains action buttons to enable a
22 bandwidth measurement from the client computer to the receiving computer connected on
23 the computer network;

24 wherein the said call interface contains buttons for sending an instant
25 message;
26 wherein the said call interface contains buttons for making redial;
27 wherein the said call interface contains action buttons for displaying call
28 history.
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2 37. The method of claim 35

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4 wherein the said service provider is a merchant who wishes to offer the
5 said e-commerce voice communication solution to anyone without requiring the said
6 clients to complete a user enrollment page;

7 wherein the said service provider is a marketing advertising agent offering
8 said e-commerce voice communication along with advertising information using the said
9 EVCS program;

10 wherein the said EVCS program and the caller interface supports
11 advertisement placement;

12 wherein the said call interface is a simplified version permitting the said
13 client to make a limited telephone calls within a fixed and limited number of calling areas
14 represented by the telephone area code and exchange numbers;

15 wherein the said call interface is a version permitting to enter telephone
16 extension numbers after a real-time communication connection is established.

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2 38. The method of claim 35

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4 wherein the said service provider is offering the complete EVCS call
5 program to enable a client computer to be also a receiving computer with ability to accept
6 a request from another client computer and make a voice modem call to the PSTN
7 telephone;

8 wherein the said EVCS call program contains the standard communication
9 protocol stack being H.323, RTP and UDP;

10 wherein the said EVCS call program contains the standard communication
11 protocol stack being SIP, RTP and UDP;

12 wherein said clients are located at two branch locations of a business
13 establishment and employ EVCS for a direct and private branch to branch connection.

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2 39. The method in claim 35

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4 wherein the said e-commerce voice communication method operates under
5 the flexible architecture and network configuration utilizing existing Internet to support
6 direct communication between any said client computer and any receiving computer
7 compliant with the same communication protocol not constraint by the
8 telecommunication companies' provisioning, billing and customer service systems.

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2 40. The method of claim 35

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4 Wherein the said EVCS e-commerce voice communication method operates
5 under the flexible architecture and network configuration utilizing existing Internet and
6 PSTN networks to support direct communication between said any client computer and
7 said any telephone device not constraint by the telephone companies' provisioning, billing
8 and customer service systems.

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